Core Lists of Medical Journals:
A Comparison

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ABSTRACT

Five core lists of medical journals are compared with respect to size, intended users, and content. Despite variations in scope and depth, there is significant agreement among the lists. A list of the seventy-two titles appearing on four or all of the five lists is appended. There is no clear relationship between frequency of inclusion in these core lists and citation frequency as reported in *Journal Citation Reports®*.

COMPILING core lists of books and journals in various fields has become fashionable lately. The basic idea is that each library must select from available titles those which it most needs, as few institutions can afford to get all potentially useful titles. A core list is a list of those titles judged by some criteria to be most central to a field and thus most likely to be used. If the concept of core lists is valid—that is, if there are some titles that are far more important to a field than others—and if these titles can be isolated, then several lists of these titles compiled in different ways should be similar.

In this study five core lists of medical journals and one related journal evaluation tool are discussed. Lists of journals in the field of medicine have been chosen because there is a clear need for journal selection in this field; a number of journal articles and other publications have investigated this situation. In 1977 *Index Medicus,* a comprehensive though not exhaustive index of medical literature, indexed articles from 2,527 journals; in addition, new titles are constantly springing up. Few institutions can afford to house this mass of publication, not to mention buy it. Thus, core lists are being produced and published to aid in the selection of medical journals for institutions with limited resources.

The core lists selected for this study are first described. This is followed by a comparison of their intended users and a discussion of their overlap. The overlap data are also presented in tabular form. These statistics are presented as raw scores because correction for variations caused by differences in the sizes of the lists would disguise significant aspects of their overlap patterns. A discussion of the selection of "best" titles within the core lists follows. Frequency of inclusion of titles on core lists, as compared to citation frequency (as reflected in *Journal Citation Reports®*), is considered in the final section of this paper.

THE CORE LISTS

"Selected list of books and journals for the small medical library" [1], published biennially since 1965* by Alfred Brandon, is regarded as a standard of medical title lists. The Brandon list of books and journals is intended as a selection guide for small- to medium-sized hospital libraries and other small medical libraries. Emphasis is placed on balanced coverage of clinical and basic science fields while recognizing the limited budgets of such institutions. Further, just over one-third of the listings have been identified as recommended for initial purchase. Only the 137 journals in the seventh revision (1977) of the Brandon list are discussed here.

Moll published his "Basic journal list for small hospital libraries" [2] in direct reaction to Brandon's list. It is Moll's contention that the Brandon collection is too large, and thus too expensive, for the small-hospital world. Moll also questions Brandon's presumption in single-handedly choosing materials in so many fields in which he is not an expert. Moll sent the 1967 revision of the Brandon list to physicians and asked them to recommend titles, either from the list or from experience, for a small medical library. The results of the survey contributed to the compilation of a list of forty-eight preferred titles (about one-third the size of the Brandon list), including eight titles not on the Brandon list, and a list of twenty-two good but less important titles. The combined list of seventy titles is considered here except where otherwise speci-

*The eighth revision of this list appears elsewhere in this issue.

fied. This is the smallest, and the oldest, of the five lists. All of the titles are in fields of clinical medicine with the exception of one hospital administration title; the basic science titles of Brandon's list were completely eliminated.

Abridged Index Medicus (AIM) is intended for the same users as are the Brandon and Moll collections: the practicing physician who relies on a hospital or other small medical library [3]. The *AIM* list of 100 titles selected for indexing is a core list of medical journals. It is compiled by physicians, medical editors, and medical librarians. Selection criteria include quality of the journal, usefulness to the general practitioner, availability, and the need to cover many fields of clinical medicine. *AIM* covers only 100 titles, and the list is subject to change. The titles indexed in the January 1978 issue are used as the *AIM* list in this study [3].

"A library for internists II: recommended by the American College of Physicans" by Allyn is intended as a comprehensive guide to the best books and journals available for internists [4]. A sample of approximately fifty specialists in each of fifty-six fields was surveyed. For each field, titles of general interest, titles of interest to internists specializing in the field, and titles for in-depth study were included. Many journals appear in several fields and at several levels of study. Thus, 140 different journals make a total of 345 appearances on this categorized list. Those journals of general interest in at least one subject are treated as "best" titles.

"The academic health sciences library and serial selection" by Bell is quite a different sort of undertaking from the other lists discussed here [5]. The purpose of the research, which produced, inter alia, a list of 369 medical journal titles, was to evaluate other methods of compiling core lists. Journal holdings lists of a sampling of medical school libraries were merged, and a list of those titles held by 90% or more of the schools was published. This, the longest of the five lists, is the only one compiled exclusively by rule; no judgements were made. The focus of this list is somewhat different from that of the others, because it is based on holdings of large medical school libraries, which have a different scope and far greater funding than hospital libraries.

Comparisons

These core lists are intended for a variety of users, ranging from librarians in hospitals with 100 beds (Moll) to medical school librarians (Bell); the number of titles varies from 70 to 369. While all the lists are of medical journals, journals for medical libraries, or holdings of medical libraries, there are great differences in the definitions both of medicine and of journal. As Table 1 shows, some lists cover little other than medical topics, while others include nursing, dentistry, and education; some include only titles that are published more than once a year, while others include yearbooks and annuals. Some lists include indexes.

RESULTS

Merging these five lists and correcting for variations in titles, incomplete titles, and title changes yields a list of 450 titles. This is not an inordinately large number, considering that the minimum possible number is 369 titles, the number on the longest list. The maximum possible number of titles is 820, which would occur if there were no overlap between the lists at all. The actual situation is closer to the lower extreme than to the upper, indicating considerable agreement among the lists. As Table 2 shows, there are 37 titles on all five lists, and an additional 35 on four of the five lists. Looking at the cumulating columns, we see that

TABLE 1

TOPICS COVERED BY CORE LISTS OF MEDICAL JOURNALS

	Brandon	Moll	*AIM*	Bell	Allyn
Clinical medicine	X	X	X	X	X
Nursing	X	X		X	
Dentistry	X				
Hospital administration	X	X	X	X	X
Basic science	X			X	X
History of medicine	X			X	
Library administration	X			X	
Indexes	X	X			
Annuals		X		X	X

TABLE 2

TITLE OVERLAP AMONG CORE LISTS OF MEDICAL JOURNALS

	Total*	Cum.† Total	Brandon	Cum. Brandon	Moll	Cum. Moll	*AIM*	Cum. *AIM*	Bell	Cum. Bell	Allyn	Cum. Allyn
On 5 lists	37	37	37	37	37	37	37	37	37	37	37	37
On 4 lists	35	72	35	72	12	49	33	70	35	72	25	62
On 3 lists	28	100	27	99	7	56	16	86	25	97	9	71
On 2 lists	59	159	23	122	4	60	12	98	48	145	31	102
On 1 list	291	450	15	137	10	70	2	100	224	369	41	143

*"Total" indicates all the titles on this number of lists, or on the merged list in this category.

†Cumulative columns are cumulated from the top down. The last number in each cumulative column is the total number of items on each list.

over one-half of the items on the *AIM* list, the Moll list, and the Brandon list are on four or all of these five lists.

The Bell list does not, despite its magnitude, include all of the titles on the other lists. There are sixty-eight titles that appear on one other list but not on the Bell list, eleven titles that are named by two other lists but not by the Bell list, and three titles that are agreed on by three of the other lists but omitted from the Bell list. Of all the lists the *AIM* list shows the greatest agreement with the consensus. It has the smallest number of unique titles, despite the fact that there are shorter lists. The *AIM* list is heavily concentrated toward the top of Table 2, indicating that the titles on it are also on many of the other lists.

A list is appended of those titles that are on four or all five core lists. Titles appearing on all five lists are indicated with an asterisk (*), although it is not clear that there is a significant difference between titles on four and titles on five of these lists. There are few surprises among the seventy-two titles included; most of the journals are well-accepted and well-known medical journals. What is surprising is some of the titles which do not appear on the list in the Appendix. *Nature* and *Acta Medica Scandinavica,* for example, are on only two of the lists, and the following titles appear only once: *Johns Hopkins Medical Journal, Scientific American, Journal of the American Chemical Society, American Journal of Surgery,* and *Current Therapy.* Titles that appear on only a few lists include journals on such subjects as basic science *(Journal of Cell Biology),* journals in languages other than English *(Deutsche medizinische Wochenschrift),* and highly specialized publications *(Investigative Ophthalmology).*

There is no single hospital administration title that appears on as many as four lists, but each list includes at least one such title. Librarians seem to feel that they must have a journal in the field, but there is no consensus on which title is most valuable.

TITLES OF HIGHEST PRIORITY

Three of the lists were divided in such a way that some titles were identified as better or more essential than others. The Brandon list has some titles marked for immediate purchase; the Moll list includes a list of supplementary titles which are of lower value than the rest of the list; and the Allyn list divides titles into those that are of general interest on a particular subject and those that are more specialized. The Allyn titles of general interest are presumably the ones that all physicians should have available; thus, they are considered a "best" list. The number and ratings of the items on these lists, as compared to the total lists in terms of frequency of appearance on the core lists, are seen in Table 3.

The titles on the Brandon list tagged as "best" amount to 40% of the list. Both the Allyn and Moll "best" lists contain about 65% of the titles. The titles on both the Brandon and the Moll lists tend to be those most often cited by the core lists. This indicates that the authors of these lists agree with each other and with the authors of the other lists on which titles are most important. This can be seen by the concentration of these titles near the top of Table 3. The Allyn "best" list, which is really a list of general titles rather than "best" titles, is much less concentrated. It seems that general interest journals are not the same as "best" journals, nor the same as widely held journals.

COMPARISON TO CITATION STUDIES

If, as has been often suggested, citation patterns of journals are related to their use patterns, then information on the citation of medical journals

TABLE 3

COMPARISON OF TOTAL LISTS WITH PREFERRED TITLE LISTS

	All Brandon*	Best Brandon*	All Moll†	Best Moll	All Allyn‡	Best Allyn‡	*AIM*	Bell	Category Total
On 5 lists	37	29	37	28	37	35	37	37	37
On 4 lists	35	14	12	4	25	21	33	35	35
On 3 lists	27	7	7	5	9	7	16	25	28
On 2 lists	23	2	4	3	31	13	12	48	59
On 1 list	15	3	10	8	41	17	2	224	291
List totals	137	55	70	48	143	93	100	369	

*The total Brandon list has some items tagged for immediate purchase. They are the Brandon "best" list.

†The Moll list of forty-eight titles is used as the Moll "best" list, and this combined with the twenty-two supplementary titles is the Moll list.

‡The Allyn list includes journals of general interest, of interest to the specialist, and for in-depth study; the Allyn "best" list includes those titles of general interest.

should be useful to the medical librarian. There is a published source of citation information that includes medical titles but is not devoted to them. If citation studies are valid journal selection tools and if the information produced by a general science data base is applicable to medicine, then the statistics published in *Journal Citation Reports®* [6] could be used in selection for the medical library. *Journal Citation Reports®* is a published source of citation data. It is derived from the Institute of Scientific Information®'s (ISI®) data base, on which is based their *Science Citation Index®*. The relationship between data in *Journal Citation Reports®* and standing on core lists was examined.

Each title found on two or more core lists of medical journals was searched in *Journal Citation Reports®* 1976. The vast majority (89%) of the titles on the lists were found. Three statistics were recorded for each title: total citations, that is, the total number of times a citation of a journal is recorded in the ISI® data base; the Impact Factor, which corrects for the number of articles in each title; and the Immediacy Index, which indicates how quickly articles fade from the literature. Table 4 reports the mean scores for each of these statistics by appearance frequency on the core lists.

As indicated by Table 4, any relationship between placement of a journal title on medical journal core lists and citation patterns as reflected in *Journal Citation Reports®* is a complex one. The titles on five core lists do score higher than those on four, which score higher than those on three lists, but the titles on only two lists have mean scores in the same range as those on five lists. Several explanations of this are plausible. One is that because these titles have been carefully screened they are all important, and the differences in their performances are not significant. Another explanation is based on the nature of the ISI® data base. *Journal Citation Reports®* data are based on a general science collection that includes medicine but is not limited to it. The core lists concentrate on medical titles but do include some related topics. Thus, the citation data and core lists are reflections of overlapping but not of identical interests. Very important medical journals are agreed upon by the core lists, and because of their great importance they score high in citation frequency. Journals that are peripheral to medicine are included on some of the core lists, but not on others. However, these journals may be central to some other field and thus be cited often. The midrange titles, with a medium showing on

TABLE 4

CITATION DATA BY FREQUENCY OF APPEARANCE ON CORE LISTS

	No. of Cases Found/ Cases in Category	Mean Total Citations	Mean Impact Factor	Mean Immediacy Index
On 5 lists	36/37	8,800	3.159	0.545
On 4 lists	35/35	6,300	2.349	0.457
On 3 lists	25/28	2,700	1.815	0.221
On 2 lists	46/59	7,300	3.158	0.592

core lists and low citation scores, may be less popular medical journals.

For example, *Annals of Internal Medicine* appears on all five core lists. It has a total citation count of 11,225, an Impact Factor of 5.197, and an Immediacy Index of 1.000. The *Journal of Biological Chemistry* is on only two of the core lists, yet it has similar citation scores: total citations, 88,282; Impact Factor, 6.059; Immediacy Index, 1.129. These are both popular titles in some field, but only *Annals of Internal Medicine* is central to medicine. In contrast, *Investigative Urology*, also on two core lists (indicating that, like *Journal of Biological Chemistry*, it is not a tremendously popular medical title) has a total citation score of 634, an Impact Factor of 0.758, and an Immediacy Index of 0.157. *Investigative Urology* seems to be so highly specialized that it is held only by institutions with a special interest in urology and is cited only by a small group of specialists.

Conclusions

It seems reasonable to conclude that there is a core literature of medicine, and that the core lists of medical journals agree to some extent on what it is. Most of the core lists are far larger than the core on which they seem to agree. It is not clear how much of the disparity between core lists is a function of varying definitions of medicine and journals, how much is a result of differences in intended scope, and how much is true disagreement on the relative importance of journal titles. All of these factors are probably valid to a degree.

While the statistics published in *Journal Citation Reports*® may be one measure of journal importance, it is recommended that they be used only in conjunction with other collection development tools.

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APPENDIX

Journals on Four or Five of Five Core Lists of Medical Journals

*American Heart Journal
*American Journal of Cardiology
American Journal of Clinical Nutrition
*American Journal of Clinical Pathology
*American Journal of Digestive Diseases
American Journal of Diseases of Children
American Journal of Human Genetics
American Journal of the Medical Sciences
*American Journal of Medicine
*American Journal of Obstetrics and Gynecology
American Journal of Ophthalmology
American Journal of Pathology
American Journal of Physical Medicine
American Journal of Psychiatry
American Journal of Public Health
*American Journal of Roentgenology
American Journal of Tropical Medicine and Hygiene
*American Review of Respiratory Disease
*Anesthesiology
*Annals of Internal Medicine
*Annals of Surgery
Annals of Thoracic Surgery
*Archives of Dermatology
Archives of Environmental Health
Archives of General Psychiatry
*Archives of Internal Medicine
*Archives of Neurology
Archives of Pathology and Laboratory Medicine
Archives of Physical Medicine and Rehabilitation
Archives of Surgery
*Arthritis and Rheumatism
*Blood: The Journal of Hematology
Brain: Journal of Neurology
British Heart Journal
British Medical Journal
*Cancer
*Clinical Pharmacology and Therapeutics
DM/Disease-a-Month
Diabetes
Endocrinology
*Gastroenterology
*Geriatrics
Gut

*Indicates titles on all five lists.

*JAMA
Journal of Allergy and Clinical Immunology
*Journal of Bone and Joint Surgery (U.S.)
*Journal of Clinical Endocrinology and Metabolism
*Journal of Clinical Investigation
Journal of Clinical Pathology
Journal of Experimental Medicine
Journal of Immunology
*Journal of Infectious Diseases
*Journal of Laboratory and Clinical Medicine
Journal of Neurosurgery
*Journal of Pediatrics
Journal of Thoracic and Cardiovascular Surgery
*Journal of Trauma
*Journal of Urology
*Lancet
Medical Clinics of North America
*Medical Letter on Drugs and Therapeutics
*Medicine
*New England Journal of Medicine
*Obstetrics and Gynecology
*Pediatrics
Postgraduate Medicine
Progress in Cardiovascular Diseases
*Radiology
Science
Surgery
*Surgery, Gynecology & Obstetrics